

SOIL REMINERALIZATION

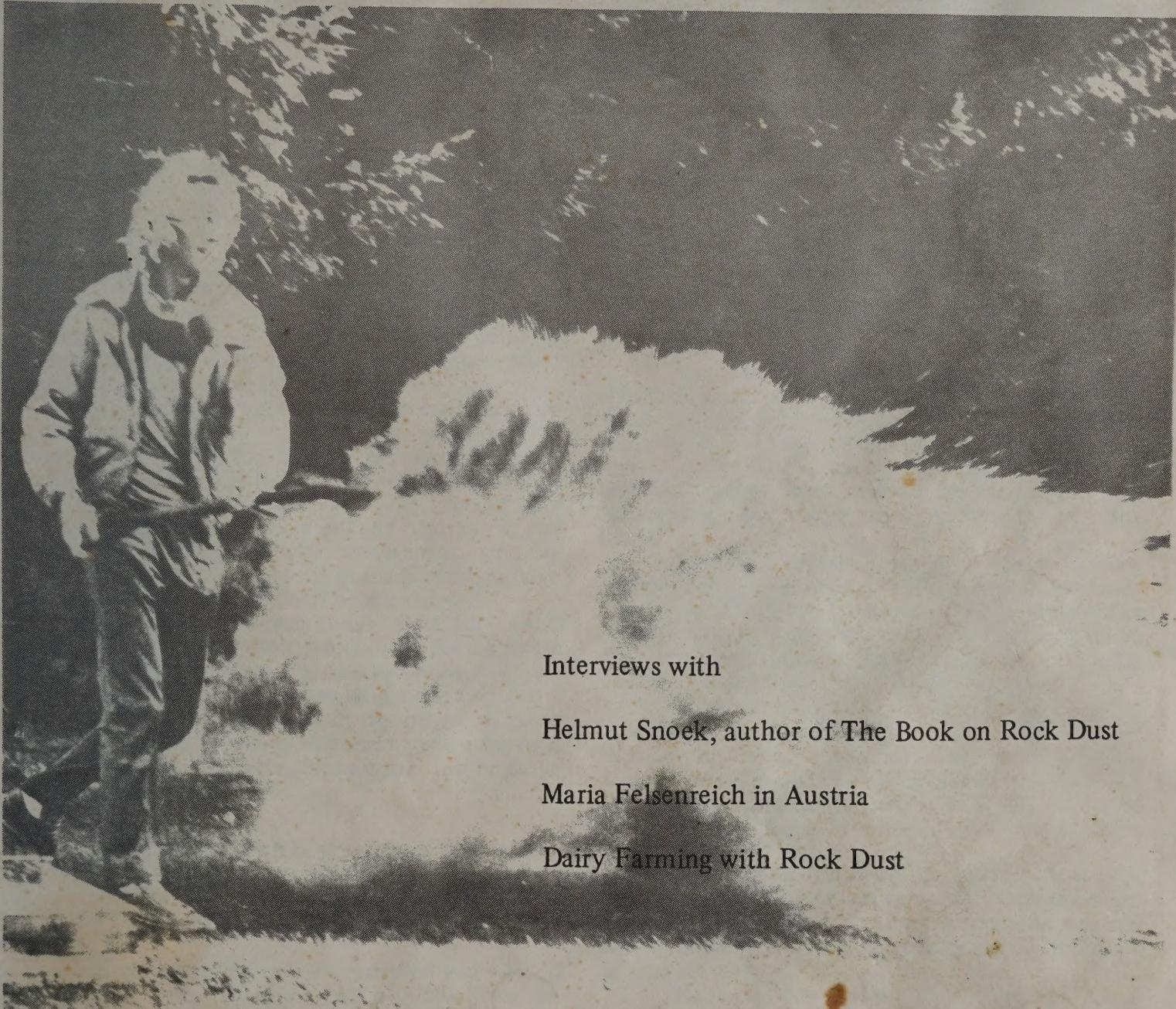
A Network Newsletter

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Interviews with

Helmut Snoek, author of The Book on Rock Dust

Maria Felsenreich in Austria

Dairy Farming with Rock Dust

"Flying Dust Man" Piet "Rotsstof" Bouter
exuberantly sweeps rock dust
across a garden.



Making Distinctions...On Remineralization

This newsletter is about remineralization of the soil and SR would like to cover this subject as fully as possible and really explore it. It seems very important to make a distinction between soil remineralization as advocated by John Hamaker and most of the remineralization that is taking place in Europe, in order to appreciate both more fully. Hamaker advocates the use of glacial gravel dust ideally followed by river and seashore gravels and mixtures of single rock types. Singular and mixed rock dust have been used in Europe and other parts of the world throughout the ages, and especially since the time of Julius Hensel in the latter part of the nineteenth century. Basalt is used in a very unique and special way by biodynamic gardeners and farmers.

John Hamaker suggests finely ground glacial gravel because that is **nature's way** throughout millenia to create fertile soils. Glacial gravel, which is a natural mixture of rocks will return a broad spectrum of minerals to the soil in a natural balance.

In Europe at the extraordinary Zimmerli plant in Switzerland, a soil analysis is done, and like a doctor making a diagnosis of a patient, a prescription is formulated of a combination of single rock types mixed together and ground to a particular fineness.

It is important to differentiate between the two approaches. Much of value can be gleaned from Europe and the research and experiences there. Hamaker's approach however, may very well offer an even **greater potential** for an ecologically sustainable and sound agriculture and forestry. It has even more in common with the Hunzas, who by virtue of their glacial fed soils in the Himalayas have become known as the healthiest people on earth.

European experience shows Hamaker's work is clearly pointed in the right direction, while the actual concept put forth by Hamaker may just bring us closer to Eden. And it is up to us now to go and find out if this is possible. When we have the means to grind glacial gravel very fine and that means when the rock grinder is readily available, then we may just be at the beginning of a revolution!

All health seekers take note: to get the most out of your food

Remineralize Nature's Way
by Margaret Flynn

If you are *really* health-oriented and want to eat the *best, most nutritious foods available*, then not only should you eat organically-grown foods for safety, more nutrients and better taste, but **organic food, grown on soil remineralized with rock dust, is for you!** Just as our bodies flourish only when well nourished, microorganisms can reproduce abundantly in soil only when *all* minerals are present along with plant residue to supply carbon needs for energy and protoplasm-compound building, plus



Don Weaver with a huge head of lettuce from his remineralized garden.

nitrogen, oxygen and sea solids from the air, and (of course) water.

More minerals for you: In 1977 a corn crop was grown on soil that was mineralized with glacial gravel crusher screenings, and tested with corn from the *same* seed grown with chemical fertilizers. The gravel-mineralized corn had 28% **more** protein, 57% **more** phosphorus, 90% **more** potassium, 47% **more** calcium, and 60% **more** magnesium than the chemical-grown corn. No pesticides were used and there was no insect damage.

The chemical grown corn of 1977 had substantially *less* mineral content than corn listed in the 1963 USDA Composition of Foods Handbook, whereas the mineral-grown corn was substantially *higher* in mineral content. As soils continue to become more and more depleted, we are consuming less and less nutrients in our foods.

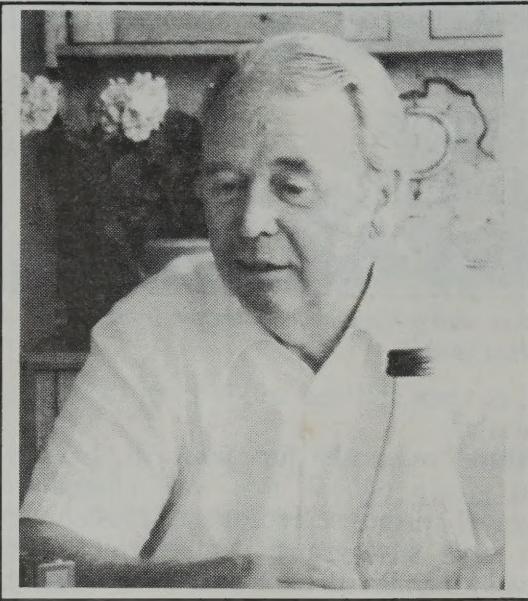
In 1948, Firman Bear did a study on trace element contents in vegetables that showed that foods that may look the same actually have huge variations in mineral content- and thus their health-promoting value. This is where remineralization with rock dust- for maximum mineral content in foods- comes in!

When John Hamaker started gardening in Michigan, the color of his soil was just a shade darker than that of a desert. Now it is dark brown to black, and erosion noticeable before can scarcely be detected. Three applications of minerals over a 10 year period have built an organic topsoil which has penetrated the subsoil to 12"- 15" depth.

A neighbor, following his advice, grew huge potato plants bearing tubers up to 3 lb. Hamaker notes: "This gardener happened to be the owner of a gravel pit, so when he added crusher screenings, he did not stint on the amount."

Hamaker has grown carrots up to 3" in diameter and 1 1/4 lb, cabbage heads up to 9" diameter; after adding from 8- 11.2 tons per acre of gravel dust to his garden. Remineralizing 4 1/3 acres with 46 tons per acre of gravel crusher screenings (for him, anticipated 10-15 year fertilization), he got 65 bushels of quality corn per acre the first season *with no irrigation*, compared to *under* 25 bushels per acre obtained by other local farmers using chemicals.

A Visit with the Author of The Book On Rock Dust



*Early in the morning last July, Joanna and Christian Campe and Lex Janssen, Secretary of the Schumacher Society in Munich and currently writing a book on rock dust, set out by train from Munich to the home of Helmut Snoek. Mr. Snoek has worked 28 years observing the use of rock dust in agriculture. He is the author of a book, **The Book on Rock Dust** (Das Buch Vom Steinmehl) with Horst Wulfrath, published by Orac Pietsch in 1983.*

He lives near the village of Opfenbach in the Allgau, the southwestern part of Bavaria at the foot of the Alps and bordering Switzerland and Austria. It is a region famous for its production of dairy products, especially cheese. It is a landscape of gently sloping hills, very green, with the snow capped alps in the distance. It is close to the Bodensee, Germany's largest and deepest lake- which gives the region a mild climate, ideal for vineyards, fruits and vegetables.

We spent a lovely day conversing and looking at the beautiful and lush fruit trees and the vegetable garden. The house is perched on a hillside with a panoramic view.

When Mr. Snoek moved to his house 5 years ago, the soil was very poor. He has built up the rich soil with green manure cover crops and with remineralization.

Some excerpts from our conversation:

First Inklings of Rock Dust...

"I got together with a famous wine grower, Lenz Moser, who influenced the whole world with his hybrid grapes, and I still remember exactly how in the early 1950's he said: look at the gravel roads, and back

then we didn't have rubber tires, only iron ones, and so from the roads it dusted ten meters to the left and right making for plants without pests and diseases. And there is something to that!...but you know how things get forgotten and remembered again!

Twenty years ago I had a chemical factory and an Austrian friend ordered five plant protection products to sell in drugstores as an alternative to chemicals. That was when I first remembered the rock dust story and that back then rock dust was thought of as a fertilizer. The Neuform director wanted to sell organic protection products in Germany's Reformhaus (a health food chain) ... they clearly said no poison and I thought, well, we'll try rock dust against insects and fungi as they do in the Kaiserstuhl (southwest region of Germany) where bentonite was used against red spider for generations.

There is a small quarry there and the owner said, 'I can't earn much with my fist sized rock, I'll fire them'... and so now he fires his gravel at 1200 degrees centigrade in a turning cylinder which measures 20m by 1m in size. Now the Hauri firm needs hardly grind to get the finest clay like size and all insects disappear with it from within a few hours to 2-3 days. It was called **Stone Powder**. In this way years of experience were gathered." (The Hauri firm method of firing rock before grinding is not recommended by Snoek for carbonate rich rock.) *Editor: Probably more expensive than grinding wet as the Hamaker rock grinder does. Also to simulate glaciers crushing rocks as in nature, without heat is probably better, for retaining the natural state of the minerals.*

Practical Advice On Marketing Rock Dust

"On where to buy and who to sell it to: One should focus the market in areas where there are rock resources and focus energy on the agricultural market, not just gardeners as they do in Austria. You choose the marketing strategy, brochures, etc. according to the customers you are focusing on, whether farmers or gardeners." *He predicts ecological production by the now chemical producing firms in about 10 years if the demand grows.*

The Book On Rock Dust

"The publisher Siebeneicher (translates as Seven Oaks!), known for forty years in organic agriculture and publisher of my books said, 'hey, Snoek, there are no books on rock dust, just pamphlets like Zimmerman's, **Stones Give Bread** or highly technical scientific literature.' Working at the Hauri firm is a geologist by the name of Horst Wulfrath and we said to each other, 'let's write a book!' I did the practical part and reviewed all the previous research.

Writing the book I followed two distinct lines

of thought. For one thing, rock dust to protect plants from insects and disease. I came up with an improved version which works with remarkable success and which I market myself. It is a mixture of rocks, clay, lime and other ingredients.

My other focus was: I wanted to prove that rock dust has a fertilizing effect. I made extensive experiments with field beans. Now I can show with absolute proof that in the early growth stage, up until the blossoming time rock dust has more of a fertilizing effect than chemical fertilizers. *He specifically mentions Thomasmehl' and 'Blaukorn' and other german brand names for chemical fertilizers.*

Because of my book I get calls every day but apart from advisor at the firms of Hauri and Lava Union, I don't do anything with it professionally. I have also created a mouse deterrent, a product of etheric oil soaked in lava in a porous marble form."

Snoek's Own Garden

"We experience how the conventional agriculture has destroyed the soils. They did this in good faith, no doubt! And now we experience how these destroyed soils can be revived in 2-4 years if you apply rock dust to them. And naturally the right cover crop. They go hand in hand with each other.

I moved here four years ago and the ground was only clay and stones. I was told that you cannot grow anything here! I worked systematically. One year only with legumes as a cover, then it was cut down and left to decompose in the soil. Then I put rock dust on top. Only those two things. And look at the soil now!'

Clay and Rock Dust in the Past

The Romans irrigated the swamps to get access to the clay and dried it and then applied it... (to the fields). They took lava dust from Vesuvius, filled it in sacks and brought it to Britain. They then planted beets and exported them to Rome.

This is not very known, but in 1948 an American archaeological team made a tremendous find in what was known as Sumeria and Babylonia. They found an agricultural library on stone tablets. Because rock dust was mentioned they contacted me and sent some excerpts. Those people knew as much then as we do today about cultivating vineyards and beans. There you could read that one should take clay from the riverbank, mix it with water to a broth like consistency and spray it on the grape leaves. No mildew will develop.

Healing with clay has been known throughout the ages. If you put it on a wound or an insect bite, it pulls out the toxins.

The ability to absorb moisture is not specific to clay, it has to do with particle size. Finely ground rock dust has the same ability. After all, clay is rock dust!

Over hundreds of thousands of years it is ground down to this fineness. Clay is poorer in potassium, sodium, and trace elements, however.

Clay has been used since prehistoric times. We can now mill rock to the same size with the advantage of the fresh water soluble minerals still present. So what we are doing is nothing new!"

On Forests

"Now concerning the forests- first, you have to improve the buffering quality of the soil with rock dust. It is optimal when applied together with organic substances, then you get a very quick regeneration of the root zone. Then you can regenerate trees that are already 50% dying. But in order to work fast it needs to be applied in a liquid form.

When you put rock dust into the soil, the first thing is a buffering effect. Now the fungi and soil organisms can grow which is only possible in a healthy milieu in terms of PH. As organic matter brown seaweed, an algae that does not grow in warm waters, is ideal. To apply sludge to forests would be optimal.

By this time the clay humus complex is improved and this in turn benefits the mycorrhiza*. This balance was interrupted, impeded by the over acidification of the soil. Now you recreate healthy conditions again. The mycorrhiza and roots supply each other with nutrients symbiotically. If you recreate these basic conditions, and in this Hamaker is 500% right, then things work well again. In all the cases where we have applied rock dust on areas of damaged forest, the theme 'Waldsterben' (dying forests) was over, it didn't exist anymore!

Traditional forestry practices prevent fertilization, let alone the proper kind. Regulations hinder the treatment of state forests. You are not allowed to bring in alien substances from the outside, chemical or natural.

There is already ample research of rock dust over the last 50-70 years. At the University of Zurich, they made long term experiments with rock dust in the forests and the results throughout were positive.

*mycorrhiza- symbiosis between the fine roots of trees and the roots of fungi. Without this healthy symbiosis, the well being and health of trees is negatively affected. Through this symbiosis the tree receives a great deal of its nutrients.

Results of Snoek's Research

"I planted the seedlings in 1/2 weisstorf* and 1/2 quartz. The seedlings were growing up to a certain height solely through their own force. I always checked my experiments with controls.

For my experiment I mixed the equivalent of

200 grams of rock dust per sq. meter and 400 gm and 800 gm respectively in pots the size of 10 x 10 x 10 cm which amounted then to 1, 2, and 4 gm respectively to each pot. That is very little, perhaps 1/4 of an eggspoon (smaller than a tsp). Every pot was mixed and prepared separately. Every experiment was repeated five times. Every ten days, every pot was photographed over a period of 3 months and a scale was placed behind the plants to show the growth. Those are absolutely scientific conditions.

The experiments were made either with just the basic control mix of quartz and weisstorf, or adding lime or seaweed or a mixture of lime and seaweed or lime, seaweed and rock dust, etc. or adding simply rock dust, but then using many different types of rock dust in different pots. I also tried many types of chemical fertilizers.

Please bear this in mind, I never tested full sized plants and also not the fruit bearing stage. After the flowering stage, every plant needs additional nutrients from the soil. In this way the experiments showed very precisely what the plant gets out of the soil and it stops growing when the soil is depleted.

The results:

With chemical fertilizers, the result was strong growth of the plant, but very little root development.

With rock dust, the plants were growing at the least twice as high as the controls with incredibly green leaves and a growth of roots you cannot imagine! The pot nearly exploded!

There are tremendous differences among different rock types. I tried a Swiss mixture. The plants came up to a certain height and then they stopped growing. With silicate rich rock dust it grows very slowly, but then- it grows and grows and grows!

Basalt: very good! Diabase is optimal. It is made of basalt dust in part, is a greenish color, has a higher potassium and magnesium content. Biolit is a well known diabase found in Bavaria and Austria.

Lava dust is not optimal. There must be something right about what the biodynamic school says, that through the lava eruption a melting process takes place that results in glass particles and they don't contain minerals. Therefore I only use lava dust in a granulate form. I do prefer lava dust to no rock dust at all.

In rock dust with 8% potassium at first the growth was very slow, but then it really took off! If the rock dust contained alot of potassium this retarded the germination of the seedling. Rock dust that contained alot of magnesium, there we didn't have any results at all, nothing appeared. Only when we took 1/4 of the initial amount, then the plant grew. That shows how high the salt content of magnesium is and how it inhibits growth in the germination stage.

No matter what type of lime the results were always the same, not as good though, as the other

types of rock dust. Mixtures of lime and rock dust literally don't bring anything more, sometimes even less. "He suggested at one point that lime and rock dust may work synergistically to inhibit each other.

Snoek adds rock dust to compost and he says that makes application more practical. Another possibility is to add it to liquid manure which also has advantages.

He is now researching a spray consisting of bentonite, silicates, calcium and a mixture of other ingredients to stimulate the resistance of the plant against diseases. He calls it Silicaben.

"The fineness of the rock dust causes the effect! Roughly ground material will only work in 2-3 years, and only when there is enough soil life. This builds up the soil humus complex and the earthworms do the rest."

*Weisstorf- organic matter that has not decayed, anaerobic, from swamplike areas where the oxygen doesn't reach.

Observations on Hamaker

Hamaker says that the root of the plants directly take in the protoplasm of the microorganisms. I asked Mr. Snoek what he thought of that. He answered, "Exactly! And Liebig said only nutrients in a solution. The root does not only take in mineral elements through a solution. It can also take up giant protein molecules, even total proteins. Fifty years ago Professor Warburg showed that they can take in protein molecules with up to 15,000 atoms, but the newest research shows they can take up to 50,000 atoms and more! Soil is not only the ion exchange! In a thimble full of live soil, some 10 billion micro-organisms are present. You must imagine that every half hour they are dying, they are dividing and then there is a supply of protoplasm."

Hamaker has made a fundamental point: Either you fertilize now with rock dust or you wait for the next Ice Age. And that is right!"



Composting Minerals: Piet Bouter sifting gravel screening through a window screen onto compost.

COMPOSTING MINERALS

Many people can yet boast of the ability to buy food. Far less can take pride in growing it and only a few people dig all the way down to bed-rock-bottom solidity to satisfy their sense of sustainability. They are bound to bring up rock dust again and again...Rock dust is not only the base of organized life along with water and light. Rock dust finds one of its most purposeful uses after that of creating organic matter, in helping to transform and conserve it, as opposed to dumping, wasting and leaching, suffocating and fouling it.

There are many ways to apply rock dust to the soil. It can be spread by hand, by mechanical means, sprayed with a mechanical sprayer and blown on during wind stillness (avoid inhaling it)...Improvising with fine mesh sieves, stockings and wet brushes for small amounts is lots of fun.

Combining rock dust with organic materials in compost can be a good way to solve application problems. Rock dust assimilates quicker in compost than in poor soils, where you **can** expect miracles, but not as quickly.

Composting Tips

For compost Helmut Snoek recommends 1 lb per 3 sq ft on each layer of a 2/3 ft high and a little less when the dust is extra fine. Don't forget a handful of dirt to inoculate with organisms and try to keep the N-C ratio 1-10. If there is a lot of manure around, you can't mix it with rock dust too soon for immediate improvement of the air and end product. Raw manure is detrimental until composted. Rock dust absorbs the ammonia, 80% of which gets lost to the air otherwise.

Some remarks from the Lubkes(soil specialists often appearing in Acres, U.S.A.) on compost:

Compost heats up faster than rock dust. Do not allow to exceed 130 degrees to prevent heat loss. Rock dust improves aeration and structure and therefore prevents rotting. Aim for a compost with 30-50% organic mass. 60-80 lb per ton is considered optimal with fine ground rock dust.

Rock Dust and compost have much in common; as ready food for life's smallest beginnings and on up. To both soil-making lifesavers applies the rules of thumb and if you ask me the rule of most common denomination, **the more diverse and varied the elements and ingredients the richer and more fertile the results.** This truth was alluded to 4 times in the first two episodes of a PBS series called **The Making of a Continent.**

Piet Bouter

Rock Dust Evangelical

I will churn out some good tidings of Rock in more than one sense as I sing along with the percussion of rumbling and snapping gravel, being crushed as a libation to the soil and to appease the glaciers, shall we say; they are growing so either way; **crushing action** sooner rather than later, if you please, just a question of doing or suffering.

Time comes alive when we take time to inspire rock. Stop identifying with the spirit of solid rock, thinking:
after me the flood, over me the glacier.
Visualize and broadcast the vision of rockdust and soon the imperative act of crushing mixed rock will be passed and carried out.
Does this rock your spirit??
Do we see eye to eye on the inspiration of rock??

"True" Piet "rotsstof" Bouter

A Message from Piet "Rockdust" Bouter

John Hamaker is now building a second prototype rock grinder along the lines of his expiring patent for personal use. Depending on favorable results I suggest we build at least one more specimen and travel around to open minded farming communities demonstrating this and the no less remarkable rock dust effect upon application. Thus leaving a trail of incentives that would make Johnny Appleseed proud to call us his successors!

Practical courses of action for those who like myself would like to get hands and resources in gear

now, are to see if there is a local need for the grinder and a suitable source available from gravel pits or quarries (see Sand and Gravel in the Yellow Pages). The next step is to find land in those vicinities to remineralize. I invite comments, people, means, odds and ends to give shape to this genesis. So far we have a full time devotee in myself. I volunteer to come and shovel away at any promising heap, provided there is a morsel of land to spread gravel dust on and transport to get it there.

A truck would also be needed to carry the grinder. Write me about land, truck and gravel pit or quarry in close proximity to each other and I will be there.....Piet (contact through SR)

Tune in to Don Weaver on KPFA Radio

On Saturday evening December 6 at 8.00 p.m., northern California Bay Area listeners can tune in to KPFA, about 94.1 on the dial and listen to an interview of Don Weaver and evolutionary biologist Dave Seaborg on how to restore the balance of nature and stabilize interglacial weather and remineralization.

HOME

A review of the book **HOME** by Brian Hutchings and Raleigh Geer shows that practical versatility leads to rock dust rather sooner than later. Their penetrating intelligence is a mix of Bucky Fuller's inventiveness, Tim Leary's political diagnoses and far out vision but with nitty gritty high-ecology technology and lots of wordplay, for instance DNA=Dwelling Need Advantage.

The chapterheads of the 150 pg large format book are clear enough; 1- Vote, 2- Being and so on. Chapter 4 is called **Frost** and concerns the Hamaker thesis and remineralization. Chapter 6 deals with **Post Interglacial Survival Technique For Yourself**. A concept which is dealt with in depth, **Cloning of Earth**, means creating a multiple function space which incorporates live+work+learn+play and absorbs solar energy.

The book includes diagrams for building Solar Farms. The contents list appropriate technology, diet, permaculture, aquaculture, grinder, keyline water collection, thermal storage, ocean thermal energy conversion, geothermal... They write also on political participation, paying taxes and defense, mass transit, voluntary simplicity, just about everything....for those who wish to make the earth their **Home**.

Send your name and address + U.S. \$10 (add \$2 for 1st class, more overseas) to: **Ra Energy Foundation**, 32 Brooks St., Worcester, MA 01606, U.S.A. Make checks payable to Raleigh Geer or R Brian Hutchings.

Reviewed by Piet Bouter and J.C.

Upcoming Bulletins Need Funding

The latest issue of The Solar Age or Ice Age? Bulletin is in preparation. Don Weaver hopes to have it out in late November or early December. At the moment there are still not enough funds available to permit publication. Support for the next issue in the way of funds would be greatly appreciated and help Don to continue the important work he is doing.

Bulletin #9 will include the new **Comments by John Hamaker**, updates on climate change, research and more supporting evidence related to the whole cycle from climate change to remineralization. It will also include Don's latest article, **Solar Age or Ice Age, Which Will You Work For?**

SR looks forward to the next Bulletin as an indispensable source book for TSOC networkers. Your support is much needed now to get the next issue out. Please consider writing out a donation or advance for a copy of the Bulletin and put a check in the mail today!

Solar Age or Ice Age? Bulletin #9

Please send a minimum donation of \$5.00 to cover the printing and mailing costs of your copy of the #9 Bulletin. Please make checks out to Solar Age or Ice Age? Bulletin and send it to Don Weaver, Hamaker Weaver Publishers, P.O. Box 1961, Burlingame, CA 94010.

Name _____

Street/Box _____

City _____ State _____ Zip _____

\$ _____ I would like to give more to sustain and expand the Bulletin Outreach.

New Zealand

The Soil Association of New Zealand would be keen to be the New Zealand Coordinators...Keith Gray, a fellow national councillor of the association, is doing a lot of work on the remineralization scene. He's doing the two most important things: Trial work for the unbelievers to witness; organizing a supply of the material so everyone can have some.

The Soil Association of New Zealand is a national organization of around 2,700 members, mostly home gardeners, with some commercial producers. The association was a founder of **The New Zealand Biological Producers Council**, a certifying organization for biological husbandry produce. We also maintain contact with IFOAM. Our efforts are devoted to promoting natural, sustainable, ecological farming and gardening methods. Both among our members, and among inquirers. We do as much lobbying on the subject as we can manage.

We financially support a biological husbandry demonstration unit at a New Zealand University Agricultural College. In association with our AGM, we also hold an annual conference, which is used as a forum to promote these things to interested members of the general public.

The Henry Doubleday Research Association of New Zealand has supplies of TSOC, and advertises through our quarterly journal, **Soil and Health**. (They)...also support Project Grow, which is what we call the fund that supports the biological husbandry demonstration unit. It'll be great to be in touch.

Perry Spiller
The Soil Association of
New Zealand

Costa Rica

Edmundo Kandler has set up an organization called Therapeuticae, for Land and Animal Division (Flora-Fauna): ecology-environment-remineralization. It is directed towards wholistic healing of humans, animals, trees and plants. He also has an organization which lends support to the United Nations University for Peace in Costa Rica, and is called Association Costarricense de Cooperacion con la Universidad para la Paz. Reforestation and remineralization are topics for Peace study courses.

...contact with Betsan Coats was established 2 years ago and she made the first trip to Costa Rica, especially for the University of Peace. This was combined then with starting her lecture trips in South America. We were well received in a suddenly planned visit with red carpet treatment, at the local Costa Rican Assembly. Her lecture April 1984 even helped push

revision of our forestry laws and regulations, ...the final approvals materialized last month. It will help to stop the incredible deforestation.

Costa Rica has worldwide well known National Parks and a Nature Conservancy area and many scientists come to Costa Rica to study. It has been said that 30% of world knowledge in tropical ecology knowledge has been provided by Costa Rica.

I have accepted being a Hamaker Coordinator here. I have just also received, via Argentina, a lot of posters. They can be distributed. Also, tests could be carried out using material from local gravel pits. But, to really do a good job a bit bigger, and to answer the question we come back to: when is equipment available for purchase?

I intend to make remineralization my area of activity for the next 20 years. My daughter Doris, 26, has a university degree in biology and botanic and post-graduate studies in Italy...Along our intentions, is the part establishment of communities, in modern versions, of the way of living of the age old Essenes. A modern name is now Biogenetic Society, headquartered in Costa Rica. *They would like to foster in a practical way, the Essenes, University of Peace ecological approaches, forestry, and remineralization.* ..it is here where I feel I can do something to test remineralization...the financing...shall partly be channeled next year to several acres for testing and educational purposes.

The Bahai's ...are going to also work on establishing farms and eco-systems, educational communities, reforestation etc...They have a bit different approach to soil improvement and natural fertilization, however, we shall exchange experiences and would be allowed to use remineralization on their land.

Edmundo Kandler
San Jose, Costa Rica

editor: Activity is developing around remineralization in Costa Rica. It is very important to get some rock grinders to Costa Rica as soon as they can be built and sent there.

India

At Present, I am attending to various letters that I am receiving from the heads of Forest Departments of different states, seeking information about reforestation and planting plants at cheap cost even in deserts and so on. I am sending them the available papers which are with me which were left by Mrs. Betsan Coats. I will continue this work, whenever necessary. I will undertake lecture tours also, but it might take some more time, for I have to equip myself as this is a new field to me though lecturing is not new to me.

I am developing the field, slowly but steadily. So far, I received two communications from the Chief Conservator of Forests (Head of the department of Forests in Rajasthan State, North India) and another from the International Town called Auroville, near Pondicherry in South India, managed by Sri Aurobindo ashram. The Rajasthan government sought the information as to how to successfully plant plants in deserts and Auroville knew about remineralization and planting the plants in their land and to bring them up at the low cost. To both places I sent the relevant papers along with a personal letter. The Rajasthan government has written to me that they are following the same technique, mentioned in our papers and have also written they would seek clarification from us from time to time. At Auroville, they are experimenting on a portion of their land, with remineralization and also planting. They have already read TSOC.

S. Krishnamurthy
Bangalore, India

Scotland

I have a growing working relationship with the Islands Council Development section, who have been working on my land in my 5 months absence with Green Deserts, and done a remarkable job. We are discussing having a small plastic greenhouse 'tunnel' by my door in a sheltered position by early next spring for growing plants under with gravel dust.

Last year Scottish farmers lost 75% of their income through the cold wet conditions that prevailed everywhere, and this year it is looking much the same with bankruptcies, and some who planted dearly suffering the effects of an exceptionally cold and wet spring in April and May, though the weather in June was good.

We are digging deep into the subsoil so as to bring up coarse and fine material from below the peaty soil, which should be a source of some fertility. The old crofters used this technique and gathered material from ditches, streams, and at the bottom of peat which they cut for fuel.

I have also been discussing with Robin from the Council about getting mineral dust in its raw and refined state from the moor next year if we can...I am sharing my land, and a natural partnership is occurring. Ken the development officer has read TSOC. Establishing a good soil requires care and hard work.

If the islands wish to survive the onslaught of 'whatever' is to come, a good soil structure with local dust ..and growing in such conditions in tunnels will be essential to point the way to survival.

I have contacted an organization called Scottish Education and Action for Development to begin to assess their interest in growing techniques in Scotland, since their influence is Commonwealth and worldwide.

I am still keeping hold of my concepts for tree-planting with the Oceanic winds over Somalia as well as for famine-relief by a form of remineralization (like Hydroponics) using sprouting seed mainly under plastic shelters. Here I would say the availability of a good low-cost and simple grinder would prove invaluable- keep me in touch on the progress of the Australian model, please..

The work I have set for myself is long-term, not immediate, so results must be good. Much of value has been gained working with Green Deserts for 5 months.

Harold F. Lane
Isle of Lewis, Western Isles

I managed to dig some silt into a few beds in my garden before sowing time, with quite good results, especially leafy plants like cabbages and leeks. Had I managed a green manure crop in time, I'm sure the results would have been better. We were pleased with results in all our crops.

Analysis of silt: Ph value, 7.6
Recommendation: no lime required to raise Ph to 6.5.
Extractable mg/kg: Phosphorus 132, Potassium 55, Magnesium 123, Sulphur 5.2, Manganese 2.8, Copper 0.60, Cobalt 0.29 and Boron 0.19.

I've since crushed assorted river pebbles which are part of the silt and sent them off for analysis, as I feel sure that what is lacking in the silt will be in the pebbles. Am awaiting the result.

Since harvesting began in August, I've been digging the silt into every available bed along with green vegetation, duck and goat dung, bark and more recently autumn leaves, and sowing mustard and agricultural vetch, to be dug in fairly soon.

One of my friends asked me recently where we can buy a rock grinder! ..We hope we can have one operating before next April, and if we can, I'll be grinding up river pebbles and other stones and incorporating the dust into the beds.

It would seem too that there is a potential market for rock dust locally. I gave a talk to the local Organic Gardeners in September and most people want to know where to find mineral dust. I've given them the address of the silt quarry, which, at the moment is giving the silt away free of charge (other than transport costs) as the silt is the only part of their sand and gravel operation which they don't sell. There are 4 or 5 silt ponds in the region.

I was invited to a one day conference on Soil and Human Health...The McCarrison Society, who ran the conference was founded by doctors, dentists, farmers and such like because they believe there are connections between soil and human health. There were perhaps 100 doctors and farmers there and I made the most of it! Between each lecture there was time for questions and discussions...

I've sent some papers to the Scottish

Ecology party who are really interested. They're publishing a shortened version of my article "As Above, So Below" in their magazine- Green Scotland- and asked me to write a follow-up. So, word's getting out at this end. The British mag- New

Leaves, Movement for Compassionate Living the Vegan Way- also published a shortened version of the article last month. Hopefully this will stir up some discussion of the subject...

Cameron Thomson
Tayside, Scotland

Self-Seeded Trees and Fire Prevention

If you have ever cooked with a beautiful wood fire, making your own bread perhaps, you will have noticed that green wood burns slowly, rarely explodes and can take a long time to ignite....

By comparison, dry brittle wood ignites quickly, and is more "explosive", being literally "tinder dry".

In experiments using up to one pound per square foot of rock (sometimes 20 tons per acre), which has been crushed as fine as possible, it has been discovered, worldwide, that trees and for that matter all vegetation recover their green sap.

The results are dramatic in small young trees- you will notice the difference in 2-3 weeks.

A tree with green sap becomes a tree with more minerals, therefore more life- sturdy and fire resistant. Foliage turns dark green, seeds become more numerous and old trees, past seed bearing age, become seed bearers again.

Vegetables grown on remineralized soils are delicious and contain all minerals necessary for health. Animals start to give birth to healthy offspring after feeding on remineralized soils. Please help prevent bushfires- remineralize your trees, especially the natives. Foresters warn that it is useless to plant trees on poor soils, so please plant all trees using crushed rock. Polluted Water can be purified by the addition of crushed rock. Please encourage your local Fire Brigade to read

The Survival of Civilization

It is available from Hamaker Weaver Publishers, either from Box 1961, Burlingame, CA 94010, or from Rte 1, Box 158, Seymour, MO 65746, U.S.A. for \$12 U.S. + postage. In Australia the book is obtainable from Angus & Robertson, Olive St., Albury 2640.

Try A Fire Test

Take Leaf or Twig from Tree or Plant
Light Gas Flame
Take A Themometer
Hold Leaf (or twig) Right Hand
Slowly Lower Both Thermometer and Leaf
Or Twig Till the Leaf Starts to Crackle
Take Away From Heat
Inspect the Temperature Gauge
Note the Result

Please note: The Thermometer Must Be Placed in Cold Water Between Each Test

Jeannie Stevens
Hamaker Coordination
Acres Alive RMB 1105
Wodonga, Victoria 3691
Australia

A Talk With Maria Felsenreich



Maria Felsenreich describing remineralization and how to save the dying forests this July at the Kraftveld symposium in Neukirchen Austria.

Maria Felsenreich, whose name tellingly translates as "rich in rocks", is passionate about her ecological concerns and that includes remineralization. She has written a book, an autobiography of her transformation to eco-activist that will be published in the near future. One topic of the book is the tremendous impact the discovery of the book *The Survival of Civilization* has had in her life, and discovering the potential to save the dying forests in Europe through remineralization.

The "accident" that took place at Schindeler's forest (see SR#2) as told to her by her gardening assistant at the Gartnerhof was fortuitous to say the least- as it just followed the reading of Hamaker. Her intuition took her to the forest to see the rejuvenated forest herself. She also met Dr. Gernot Graefe and saw that remineralization could be potentized and activated when rock dust is combined with organic material like Biovin, a humus building complex developed by Dr. Graefe.

Maria's odyssey goes on - from TSOC to the Schindeler forest, to combining resources and knowledge with Dr. Graefe, Naturland, The Schumacher Society and many others.

She has become well known in ecological circles in Germany and Austria as an advocate for remineralization as the means to save the dying forests.

One counter argument that is sometimes presented against remineralization by young activist greens is that if we find a way to save the forests, industry will just go on polluting. There are also those

that want to find a chemical fix or not do anything- and always say that more research is needed (and more funds for research!). Meanwhile industry and cars continue to pollute and forests die.

At the symposium in Neukirchen in Austria in July there was a panel discussion on saving the forests which included Maria, forestry officials and experts. One young ecological activist during the discussion expressed the fear that remineralization would take polluters off the hook. A woman in the audience stood up and eloquently expressed appreciation for Maria's efforts to bring life to the forests. One panelist, a forestry researcher defended the aim of Maria saying that if a person has cancer, you do not remove the causes and leave the person to succumb to their illness. You take away the cause of the illness and do your best to heal the patient!

We cannot desert the forests. Remineralization is the key to returning vigor and health once more. The means is there to do it when we, society and individuals, see what needs to be done and start doing it. The solution for Waldsterben (the dying of the forests) is twofold: it is to cut the pollutants that are affecting all life and to actively regenerate trees and forests.

It has been shown in Europe that where the trees are suffering most, there are also the highest incidences of bronchitis, asthma, emphysema, and other respiratory illnesses, especially affecting children and the elderly.

So, just as Mr. Krumschmidt points out that the wood ants are bio-indicators for the health of the forests, it seems clear that the forests are going to be the bio-indicators for other forms of life as well, including our own.

Excerpts from a conversation with Maria in Neukirchen:

Ants Like Rock Dust

"Ants are very important in the forests. Mr. Krumschmidt lives near the Boden See. He knows everything about ants and worked with them for 30 years.

When the forests began to die and experts saw the wood ants were leaving the forests, the experts would ask Mr. Krumschmidt for ants to restore the soil. K had a difficult time to explain that first they had to restore the soil for the ants! It's very easy, because all you have to do is sprinkle on the rock dust! Nobody would realize that.

Finally he found some forestry people in Freiburg to try out remineralization, but we haven't gotten the results so far.

Mr. Krumschmidt is quite sure that by putting on rock dust in 5 or 6 months the ants will return by themselves, but of course, it's much better when you give them the shelter they need and that is what he's

doing. I decided he was the man to transfer to the National Park here in Austria, because he's a very special man and exactly the kind of teacher we need, to take his knowledge and do the kind of work he is doing now. He has worked out a very good exhibition and we would like to bring it here to the National Park.

Maybe the ants will be the real indicators for revitalizing soils. I suspect the ants will go to the lots that have been sprinkled with rock dust and they won't go to the other lots. (*editor: The same with cows and their preference to graze on remineralized pastures!*)

Save The Vienna Woods

The Save The Forest Fund (Waldhilfefond) in Austria is a pool of funds- 60% will be used for direct action to save the woods. The Viennese Woods will be the first. The media has informed people what's happening to these woods. We have mixed up bags- 1 part Biovin (humus complex) and 5 parts rock dust which people can buy at the entrance of the woods and carry with them on their Sunday walk. One bag is enough to remineralize 5 trees. They go out and they have yellow ribbons for each tree that is remineralized. Everyone can participate; children, grandparents, the whole family...

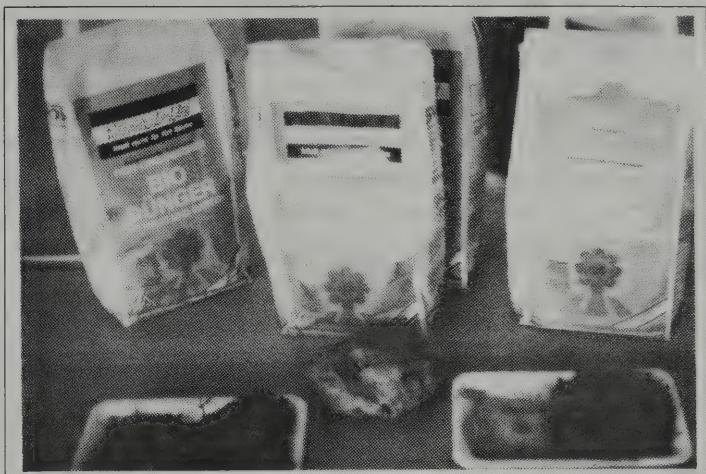
Now if the National Park also develops forest projects like this- perhaps the Save The Forest Fund can expand and flourish and really get things going in all Austria.

We have to stop polluting and regenerate the forests!

We want to build up a program to inform people about what we can do to help the forests. We have a lot of literature and sound hypotheses. We know we have to cut pollution, especially car emissions, scrubbers for industrial chimneys.

I would like to prepare people to go into forest work- they need sound information about Waldsterben, the dying of the forests, and different healing methods on different levels- water, soil- to know how homeopathic treatment can heal forests and so on. We want to really train people who are morally and ethically sound and should develop the ability to speak comfortably to the aristocratic forest owners, church circles, the community, farmers, forestry officials- they should be able to stand up to academics- a kind of Greenpeace movement in the forest. They should be able to do all kinds of work, even hard work, and also women. We have to bring the female quality to the forest because the forest is in the domain of men. It's a domain of people who seem to be strong, knowledgeable and women "have no place there"! Women don't work in forestry here- This is something new to the forestry people and owners.

We must start with those who are open to our ideas, and then the avalanche will begin."



Biodunger, a combination of rock dust and biovin.

One bag is enough to remineralize 5 trees.

Strollers at the entrance of the Vienna Woods can buy it and remineralize on their Sunday walk, tying a yellow ribbon around each remineralized tree. The dish in the lower right has rock dust on the left and biovin humus complex on the right.

The Kraftveld Seminar

"The first workshop was very relevant and practical. We invited the farmers to a place called Stuhlfelden where there is a large deposit of rock dust and forest officials of the region and the mayor of the town were invited. Councilman Gottl was fascinated to see the deposit and he is also a friend of the mayor, Mayor Steiner (Stone!) and he was pleased to meet the farmers. We went to a nearby forest- and first I put out the rock dust and biovin and offered it to everyone to smell. It smells like wine as the biovin is made of grape refuse- and then Mayor Steiner and Mr. Gottl also put out the gravel dust from the deposit. This rock dust is not rich in silicates, but will suffice for the woods. It is fine enough and has a lot of what is needed. It is not as fine as the diabase used by Abermann in Kitzbuhl, but a fraction of the dust is very fine and this will go immediately into the ionizing process and then the next particles will be assimilated. It could be applied very easily because you just take it out, dry it and blow it on with tanks. It will take months probably to get it off the ground. In this case there is economic interest to do so- because it stays there, is covered by soil and deposited. They are sitting on gold!"

The outcome also of this day was that above the gravel deposit- the forest looks very good so very probably the wind blows fine gravel dust into that wood and that could be the reason why the trees look so nice. The needles are very strong.

After the workshop Dr. Graefe stayed on with the farmers and spoke about biogas, getting energy from cow manure. He is developing small biogas devices for the people in Ethiopia and it took about a year. By a detour this alternative energy possibility is

coming back to Austria and is now ready to be sold to the farmers for a price that is enormously attractive, (about \$3300) and it uses the manure of 12 cows. It can be used for heating, and for heating greenhouses. They have so many cows and they should use it. So I hope that this whole action here in the National Park will eventually lead to the formation of a group which really gets on with the question of an ecological agriculture and forestry.

Mr. Krumschmidt is taking his exhibition (extraordinary photographs and studies of wood ants) and we hope to establish it in Stuhlfelden. He will map out the whole region (the National Park) to see how many forest ants are to be found and which should be sheltered through the winter. (The large anthills can be sheltered with huts.) And in Stuhlfelden is a small school for children and this school will lose many pupils and they would like to do something there—perhaps an eco-school could be started there and perhaps the **Save The Forest Fund** could be part of it.

The week I have spent here has been very worthwhile, and not just talk!

Mr. Krumschmidt and the Wood Ant

Mr. Krumschmidt took part with Maria Felsenreich at the Kraftveld ("Force Field") symposium last July in Neukirchen, a village in the National Park of Austria in the Hohe Tauern alps. Hamaker Coordinator Renate Meier first came across his life work and research, his observation of the wood ant in the forest and the link with demineralization of the trees and soil. He sees wood ants as clear bio-indicators to the health of the forests and forest soils.

These are some excerpts translated from a letter of Dr. Krumschmidt of the Society for the Preservation of Wood Ants in Ehrenstetten, Germany (FRG).

"I was especially pleased that you mentioned my 35 year experience and observations of the wood ant. Already in the beginning of the 1950's these reliable Bio-indicators showed the beginning of the slow dying of the woods, because the ants—as a consequence of the demineralized soils in the woods—did not find any more insects on the weakened and sick trees on which to feed themselves. In connection with the Youth Foundation Vaihingen/Enz at the Forestry Experimental Station of Baden Wurttemberg (a german state) and my Society for the Preservation of the Wood Ants, we are experimenting here in Ehrenstetten on a small area with stone flour (Hamaker) under scientific observation."

"Agricultural and forest soils, denaturalized through chemical fertilizers and poisoned air and lethally compressed by over heavy machines, must be regenerated in a big way through spreading biological organisms and crushed rocks as far as this is still possible."

Island Pioneers

Harold Lane, A Green Deserts member who lives on the Isle of Lewis, is trying to get approval and support for his proposals for a better use of the land in the Hebrides. The plans involve the drainage of peat land now used almost exclusively for rough grazing and shooting. The drained land would be planted with shelter belts, mainly of willow, for protection against the Atlantic weather. The sheltered fields could grow vegetables which are currently imported from the mainland....In the lee of the trees poly-tunnels would last longer and enable the cultivation of exotic vegetables.

Harold Lane intends to increase fertility by remineralizing the soil with finely ground rock particles according to the theories advanced by John Hamaker in the book, "The Survival of Civilization".

Further details from BUAN ALTEACH, The Caravan, Fleshin Rd, Fleshin Pt, Isle of Lewis, Western Isles, Scotland.

Green Deserts, #13
Rougham, Bury St. Edmunds
Suffolk IP309LY
England

From Big Potential in Rock Dust Mineralization

A report in the Weekly Times in Australia of an address given by Don Weaver at the Burnley Horticultural College campus:

Mr. Weaver is a disciple of John Hamaker, an American engineer turned ecologist, whose extensive research points to the value of remineralizing soils by the application of stone dusts. Mr. Weaver has been brought to Australia by Vernon Lawrence of Environment Management Systems and the lecture was sponsored by Australian Portland Cement which sees a market for the cement manufacturing by-product, kiln dust, as a remineralization agent.

Burnley principal, Jim Davis, is also convinced there is potential for rock dust remineralization and the college is planning further scientific research into the subject.

The Weekly Times report attracted a response from all over Australia with inquiries and comments from farmers, observant country people like Stan Fenton, and researchers such as Dr. David Gillman of CSIRO, Townsville.

Dairy Farming With Rock Dust

by Georg Abermann

Martin Gasteiger in Unterlohen, Bavaria in Germany has been doing organic farming since 1973 and has reduced the cost dramatically. Yearly he uses 10 tons of rock dust at a cost of about \$400 a year and he gets 7000 liters per hectare (2 1/2 acres) of milk. His cows become 10 years old or twice the age of the average cow and have twice as many calves as the average in Bavaria. How does Gasteiger manage to be so successful with so little means?

He tries to take as good care of the soil as possible. He fertilizes only with small amounts of liquid manure, 10 cubic meters per hectare and only if the soil is dry. He collects all organic matter from his farm and household and composts it together with the calves manure, rock dust and soil and uses this mixture as bacteria nutrients for the field and farmland. He uses this compost as a bacteria supplier for the field and crop land.

The liquid manure is treated especially with rock dust in the stable so that organic and mineral substances are combined and no toxicity arises. Then in a special container, a clay humus mixture is added and it is then aerated. This clay humus mixture is liquid and mixed in a concrete mixer. Out of the clay humus brew every 5-6 days- for every 20-25 cubic meters of liquid manure, one wheelbarrow of clay humus and some manure compost are added.

Gasteiger says the bacteria in the humus act like an inoculation so that the rotting bacteria in the liquid manure increase dramatically. The aeration gives the necessary oxygen and the finely ground clay material in the concrete mixer and the rock dust have a great active surface that bind toxic elements so that they cannot interfere with the growth of the rotting bacteria in the liquid manure. These clay particles also bind nutrients like nitrates so that they cannot be washed away in the groundwater.

"Instead of buying expensive liquid manure additives, I make my own", says Martin Gasteiger.

The liquid manure thus treated cannot be compared with the urine and manure. To prove this Gasteiger holds his hand in the brew, washes it off under cold water without soap and holds it under our noses. There is not the slightest smell. And besides that it does not harm the soil life nor does it burn the grassland, even when the temperature goes above 90 degrees and above all, the animals like to eat the grass grown.

It is applied only in dry weather under the motto, "little but often", about a liter per sq. meter (10 sq ft to a meter). He succeeds in taking care of the earthworms, so they multiply and work for him. The clover stays and manufactures nitrogen through the

nitrogen collecting bacteria at the roots of the clover.

Per hectare he adds 5 dt (dt= 1/10 ton) rock dust each year and every three years he adds 5-10 dt lime. His rock dust is Diabas, a volcanic rock of 55% selenium oxide from Kitzbuhl, Austria- with a guaranteed fineness of 0.09 mm and 1/3 of it is under 0.02 mm in size.

An Update

An employee of the Bureau of Agriculture of Bavaria commented in an article on Gasteiger's results very cynically, if he had used conventional fertilizers with as much enthusiasm, his profit would be just as great!

In response to this published comment 26 people wrote letters to the paper protesting this off hand comment- brushing aside of Gasteiger's methods and success. They pointed out that people like Gasteiger should get all the help possible as they do something positive and natural without subsidies!

(Translated by Christian Campe with permission of the author. The article appeared in Grunland magazine 9/28/85)

Progress on grinder delayed Investors take note:

Bill Trollope has been developing a prototype which will cost about U.S. \$25,000. The prototype always costs more than when it is ultimately manufactured. Investors who would consider funding of the prototype should contact Bill Trollope, 229 Bobbinhead Road, Turramurra, New South Wales 2094, Australia.

The grinder is made along the lines of Hamaker's design. John Hamaker's grinder, unlike other designs would not wear out grinding hard rock and need replaceable parts. American investors contact David Munson, tel.# (214) 674-3635 or (214) 986-1558.

TIPSY

TIPSY, The International Permaculture Species Yearbook, is a source book for those interested in permaculture and a sustainable forestry and agriculture and is a very inspiring and informative book on all counts. This year it has done a lion's share of networking on the fate of the forests, climate change, and remineralization.

The ten page article, **Solar Age or Ice Age, Which Will You Work For?** by Don Weaver is an excellent synthesis complete with diagrams and photos. The "carrot photo" of SR #2 is really impressive here. "Some Actions To Consider" gives the reader a good idea how to get started with remineralization for gardens, farms, orchards, forests and how to join the campaign to get remineralization out to friends, local community, media, politicians- the world!

There is also an editorial, "The Fate of the Forests, A Time To Choose", and a list of Remineralization Groups around the world. There are numerous articles, by Bill McLarney, Bill Mollison, Wes Jackson and many others. TIPSY comes in a large yearbook format, is 150 pages and available for \$15.00, the worldwide price. Write Yankee Permaculture, Box 202, Orange, MA 01364, U.S.A.

HEALTHFUL LIVING

Three extensive articles by Margaret Flynn; the first two installments of a three part series have appeared in **Healthful Living**. The first one was **First Things First: Healing Our Dying Earth**. The second one was **Summary of Current World Conditions and More on the Great Climate Coverup**. The third part is called **What Can "Just One" Person Do?**, a comprehensive 5 page article that has just come out and really shouldn't be missed.

Margaret Flynn writes about what it means to change our attitudes and priorities to heal our dying earth in a manner that is lucid, moving and very empowering.

You will also get an introduction to healthful living with live foods. For copies write to **Healthful Living**, Life Science Institute, 6600 Burleson Rd, Austin TX 78744. (\$2.00 an issue)

Countering Climatological Crisis

The article by Gregory Watson, part of which appears here in SR explains the climate crisis and the need for remineralization. SR would be glad to send a copy to interested readers. Enclose SASE.

Abandoning Warmed Over Theory Innovators Show Gumption, Re-Assess 'Greenhouse Effect'

Written by Joe Alexander for the Arkansas Democrat, 9/9/86. This article, which speaks powerfully to common sense, shows how a letter to the editor can become an article in its own right on the opinion page of a newspaper. Send SASE to SR or look for it in the next Bulletin #9.

Big Potential in Rock Dust Mineralization

The subtitle of this Australian newspaper article by Bill Craven is Applications of crushed sandstone, local limestone and bluestone have strengthened pasture by boosting growth and output. It will appear in Bulletin #9.

A newspaper in New Zealand reported that a student- Jean Marie Spiller recently won a science prize showing 400-500% lifts in clover production achieved with crushed rock as compared with the pots given none! This article like the previous one has some very impressive photos. Look for it also in Bulletin #9.

Soggy Summers, withering winters blamed on pollution in the Irish Independent, 8/13/86, and **Voices in the wilderness predicting doom** in the Irish Times, 9/22/86, were written after an address given at the Future In Our Hands Summer School in Westport, Ireland by Joanna Campe. Two seminars were given on climate and remineralization. There were also two television appearances on Today Tonight and The Changing Face of the Earth and a national radio broadcast. It is hoped a remineralization network will be established there. The tremendous interest generated by the media was in part due to the terrible weather Ireland has experienced in the last few years. In fact the weather has been so bad, that in other times (without exports) there would have been famine. There was not even enough fodder for the animals.

LETTERS

Separating Minerals From Rock?

Have enclosed copy on Mr. Wilson and his development of a method to separate silica and alumina from pulverized rock. Whatever became of the method or whether he's still alive would be worth investigating.

Florida and Georgia have no glacial deposits of mixed stone gravel for remineralization purposes. The nearest granite screenings are about 400 miles north of here. Transportation for a 22 ton load costs about \$500. 25% of the screenings consists of coarse material that is lost or stored until a pulverizer is available.

I think Mr. Wilson's method a better way if it is a proven commercial one. In the meantime I'm making contacts to restart selling rock dust. Any suggestions will be appreciated.

Joe Mack
Ocala, Florida

editor: An excerpt from the article sent by Joe Mack which appeared in Dr. Shelton's Hygienic Review, published in 1953. The article is entitled "Ideal Fertilization of the Land":

I have received a communication from Leroy A. Wilson...in which he says that he has worked out a simple process for supplying minerals to the soil at low cost. He says that in the region where he is located(Veyo, Utah), are vast deposits of rocks which carry the trace elements as well as the better known mineral elements. He adds that all of these rocks are made up largely of worthless silicates, which, as "all soils have ample silica and alumina," they do not need to be added to the soil. He says, the "bulk of the weight of all rocks is silica and alumina," and that if these are removed, the remaining minerals of the rock may be shipped at small cost. He adds that "this natural concentrate, blended from various deposits to fit the soil to which it is applied, can be produced at very reasonable cost."

John Hamaker Responds

The 1953 Shelton article is very interesting. Those old timers know more about what makes a soil perfect than any of today's soil scientists.

I have used foundry slag and agricultural lime on pasture land. That was when the veterinarian stopped wearing a path to my door. Savage* came to see me in Michigan about building the grinder. Unfortunately the sort of capital and equipment required is only available in the banker controlled corporations. Savage was using a hammermill to grind rocks and the cost of replacing the hammer made the process impractical.

I do not think Mr. Wilson's idea is practical. One of the unwritten laws of nature is that every critter has to work for a living. Nature put the minerals in the Rock in highly dispersed fashion, so the soil organisms could not consume all of them quickly. If they were added to the soil as Wilson would have done, there would be a population explosion in the soil and in the plant life on the soil. When the microorganisms were all consumed, the

plant life would collapse. I have seen it happen in pot tests. So have you in a less dramatic way. To build strength and longevity in a soil, you have to make the organisms work for the elements they need. There is no free lunch.

I do not agree with Shelton that minerals should be added according to the indications of soil analysis for two reasons: I have seen in the past the following figures on the required elements for life, 16, 25, 52, and 70+. It keeps going up. It's now beyond the ability of the usual testing equipment. I think it's much safer to rely on a grand mixture to furnish 92 elements in normal balance and to rely on the microorganisms to know what to do with them. And for economic reasons the nearby creek, river or ocean gravel is what we must use.

John Hamaker

*John Hamaker refers to Arthur Carter Savage (author of Remineralization, Will It Reach You In Time) of Nicholasville, KY, who according to the article, achieved remarkable results with plants, and animals fed with foods grown on remineralized soils.

Grand Scale Networking

Am sending the latest rock dust article...Circulation for the summer Healthful Living issue was 55, 409...The April-May issue went to 44, 646. So maybe the current one to go to press will go to over 60,000 if the 'trend' continues. Hope so. Heard that one standardly computes actual readership doubling the circulation figure, so we may be reaching over 100,000. The article to go to press next covers rock dust remineralization in detail...

Margaret Flynn
Bastrop, Texas

Native Animals Can Remineralize

Perhaps native animals could disperse soil supplements more cheaply, without additional carbon release, although more slowly, than our petrochemical machines. Cattle have chosen to eat cement kiln dust (similar to gravel dust from ground gravel) through a hole in a barn, (TSOC, pg 34) savoring the missing nutrients, and have grown a quarter more on a fifth less feed, when 3.5% cement dust was included, as compared to controls in Wheelers and Oltjens' USDA test at Beltsville, MD (ibid, page 47).

Thus deer, partridge, etc. from a salt/dust lick or especially enriched winter feed, like rock-dusted hay or ground shad, would spread nutrients throughout their surrounding habitat and food chain to the soils beneath them.

Also: The Brattleboro Sand and Gravel plant in Northfield has a wet gravel crusher, the dust from which is dumped in a pond. I'm trying to get some to test it.

I can't wait to try this stuff...

Brian Cady
Newfane, Vermont

Dairy Farming With Rock Dust

One thing I hope you, or someone in the organization can tell me, is: Is there any data available on the effect of remineralization on dairy farms; the quality of the milk and other products, especially?

Here in Marin County, there seems to be an ironic situation. It is said that many dairy farmers are on the brink of going out of business because of surplus milk production on the one hand; and on the other, there are numerous fine restaurants in this area that would be willing to pay very high prices for really fine dairy products: milk, butter and cream, that are unobtainable in this region and, in fact, in most of the United States.

If you've ever had a drink of milk in Switzerland you'll know what I mean by really fine. Now having read TSOC, it occurs to me that the reason for the difference in quality might be the highly mineralized soil of Switzerland, on which the cows pasture and on which their winter fodder is grown.

...I'd like to try and stir up some interest among the local farmers; but first I'd have to be able to supply them with rock dust or at least tell them where they can get it.

As far as myself, all I have is an acre of steep hillside over the ocean, with a small vegetable garden, some fruit trees and seven chickens; but I am very anxious to try the effects of granite dust on all of them.

Nancy Knox
Sausalito, CA 94965

Editor: You've inspired the series of articles on dairy farming with rock dust that begin with this issue!

Veterans and Remineralization

Currently I am on the Board of Directors of the Vietnam Era Veterans Development Corp. of Boston, a non profit corp...Our purpose concerns the counseling of veterans and their families, and providing job training for those unskilled to compete.

My second project hopefully is the establishment of a small stone dust manufacturing plant, placing men to work in an industry which is essential. As I speak to men of the problems confronting our planet, I've observed a rising concern...The work of remineralization will take a lot of effort and time is of the essence, hopefully we can make a difference and influence others to stand up and act for the Love of Life.

Edward Fielding
Boston, Massachusetts

Rock Dust and Sawdust Mulch

I have been experimenting with using a combination of (1) part stone dust and (2) parts sawdust as mulch. Very easy to use around small plants such as carrots and onions...I try not to put too much on because of the high carbon content of the sawdust. I am passing this on in hopes other people will do the same so we can compare notes.

P.E. Donahey
Amherst, New Hampshire

I am studying geology at evening classes as well as working as a gardener during the day. I am doing some experiments using rock powders obtainable from the pottery trade, namely (1) Basalt, (2) nepheline Syenite (9% k2O), and (3) Dolomite.

Andrew Kozlowski
London, England

The Mondragon idea is catching on in the northwest under the name of Mondragon West. Next general meeting...I will be sharing TSOC information with them, and will keep you informed.

Glenn B. Wiprud

My introduction was through Acres U.S.A., TSOC, Don Weaver, for which I am most grateful. Your efforts in conjunction with Hamaker/Weaver et al have to be the most important since the Resurrection. My efforts will be usage in amending selected sludge composting for ag use.

The application of stone meal to composting operations appears to me to be a way to amend the compost advantageously. It is my desire to find out more about the possibility of starting a grinding operation and your network looks like a winner.

Bill Joyce
Towson, Maryland

I've been doing this sort of thing on my own with rock phosphate-greensand + gravel screenings. I didn't know there was an organized group with a newsletter.

R. D. Hendrickson
Newport Beach, CA

I did a few trials of beds of lettuce using 7# of 200 mesh dust on a bed 4 x 6 and a control. There was a definite difference. My whole problem stems from not being able to produce rock flour. It appears as though the mill I need to manufacture the material in the volume recommended runs around \$1,000...

We regularly haul and spread river silt which we just shovel (?) on cobble banks. This is essentially the same stuff in reduced concentrations and not as effective but simple to obtain. I have not given up however and keep my ears to the ground for a mill. It seems that the miners all love gold and although sm makes sense I have as yet to convince them to make rock flour. Any ideas or possibilities of grant money available for a mill? I have a tractor and a truck for hauling.

John Seeger
Forks of Salmon, CA

...Yes, I am very interested as I have children, grandchildren, and a great grandchild. We live in the Sand Hills of the Panhandle of Florida, the trees are disappearing fast. We can get dolomite here...I've tried lime, clod buster, rock phosphate- we use kelp fish meal, fish scraps, compost on this sand and it has turned colors now. Yes, I'm scared about this and I'd like to help- But how?

Ellen Buck
Fountain, Florida

Weir Sand

I wanted to let you know what my experience has been so far...I found a crushing operation 30 miles away that produces Weir sand. 46% of a sample will go through a 200 mesh screen. This is a by-product of washing the freshly crushed gravel from mixed river rock. It is moist (10-15%) and tends to be cloddy. If the clods dry they are very hard. I've been applying this to soil at the rate of 100 lb to 100 sq. ft. along with Clod Buster (a mined humate) at 5 lb per 100 sq ft. This was done for fall crops so I don't know what this will produce. I am also experimenting with various artificial soil mixes for potted plants and greenhouses using the weir sand.

At \$2.50 per ton, it seems very reasonable. Delivery costs more than the product.

For use on a larger scale than my 1/4 acre garden, the weir sand could be dried and milled somehow, or could be applied as a slurry like liquid manure.

John Cowan
Cape Verde, Arizona

I have been interested in this for years- sought after volcanic dust- finally secured a mix of granite dust and the carborundum it is polished with.

I am a believer in Sampan Howard's "Clean Culture" promoting use of granite dust, gypsum, carbonate of lime, bonfire ash, and humus. But, positively no animal matter unless burned to an ash.

The University of Minnesota agricultural school pooh, poohs the need for any soil remineralization here. Ignorant or dishonest to my way of thinking.

Lester C. Shaffner
St. Paul, Minnesota

People for Animal Rights
1139 Woodside Trail
Troy, MI 48098
(313 828- 4179
after 6:00 p.m.)

To all Members/Contacts:

The information I am enclosing is of a very critical and urgent nature. Please read it now, and consider it very carefully. It concerns the probability of an oncoming climatic crisis of epidemic proportions- a crisis that will affect *all* life on the living planet- a crisis whose coming has been accelerated by only *one* species of life on the living planet- humankind.

I have, myself, studied in detail the data presented by Hamaker, Weaver, and others forming the basis of their assertion of the onset of glaciation, and I find it totally sound (I come from a strong mathematics/ physics/ geophysics background). What I have enclosed in this mailout is only a summary. In order to have a more detailed understanding of the situation, I urge you to order the book TSOC (The Survival of Civilization), either directly from Hamaker-Weaver Publishers or from us.

I cannot over-emphasize the importance of both understanding the current crisis at hand as well as immediately proceeding with the necessary corrective measures to undo what

our species has done (primary causes; deforestation (through massive urbanization, exploitation by the timber industry, creation of cheap and unnecessary grazing lands, destructive land "management" practices, etc.), overworking of the land (in large part due to the unnecessary dependence upon animal-based products), "chemical" agriculture, the unnecessary use and dependence upon fossil fuels, etc..

By viewing the living planet from a homo-ego-centric perspective, rather than an eco-all life centered point of view, we have necessarily been blind to the laws (truths) of the living earth, and have violated those laws on a massive scale. *The most basic of these laws is that survival is achieved through cooperation between species, not competition against other species.* We can view each separate life form as an individual living cell, part of the larger living body, the living earth. Obviously if these cells compete against one another rather than cooperate with each other, a vital part of the living body (the earth) will degenerate. Enough degeneration occurring to enough portions of the body would eventually lead to death of the living planet. The current crisis already at hand warns us that such a level of degeneration to the living earth is already very nearly reached, and unless we take corrective action *now* (in very specific forms of regeneration- discussed in the articles), the degeneration will reach the point of no return. *The time to that point of no return could be as short as 6 to 8 years* (based on an estimate made 4 years ago).

We in the animal rights movement have up until now been fighting for the change in human perspective to a cooperative, respectful and compassionate view point of the other animal life forms of this living planet. This change in human perspective is absolutely necessary in order for ultimately any life to exist. But at this moment, we may need to re-examine our specific campaigns in reaching that end. The exploitation of farm animals, animals in the lab, hunted and trapped animals, domesticated animals are unquestionable specific aspects which must be eliminated. But all the animals involved in these atrocities, as well as the vast majority of the entire animal and plant kingdoms of land-based earth (including our own species) are literally at stake now. *We must all do what we can to undo the immediate danger at hand- the onset of the next period of global glaciation.*

Animal Rights (as defined in The Animals' Agenda Magazine): The rights of all animals (non-human and human) to equal consideration, and to live a natural life unmolested by humankind. What could possibly be a greater example of our (humankind) molesting their natural lives than the onset of glaciation- resulting in slow starvation and ultimately 90,000 years of bitter freezing cold?

I, personally, will be devoting a portion of my time hereafter to the global projects of remineralization of the soils and reforestation projects which provide a possible turning-around of this oncoming climatic disaster. I would like to see a network of dedicated people from the animal rights movement join me in these efforts. All operations to this end within our organization will be implemented under our second name "Society for an Extended Ethic." Any concerned persons local to our geographic area are welcome to merge efforts with us. Those in other parts of the nation are encouraged to begin their own local activities. *For more information, write or call*

Debra C. Vuckovich, President
 Project: SOLE
 (Survival of Life on Earth)
 Society for an Extended Ethic

Editor: This mailing included Solar Age or Ice Age, Which Will You Work For? by Don Weaver and First Things First: Healing Our Dying Earth by Margaret Flynn.

A Note On Glacial Gravel and Rock Dust Sources

You may be surprised to see as yet very few listings for the U.S. In Europe where rock dust has been marketed for agricultural use for decades, it is a market already developed. These sources are mainly single type rock dusts, such as diabase. At the Zimmerli plant in Switzerland you can have custom mixed any combination of rock dust you wish in the exact fineness specified.

That leaves us in the U.S. with most of the ground work and marketing to develop ourselves, whether on a cooperative level, a local business or a larger venture.

SR will keep you up on the development of a rock grinder designed by John Hamaker, which would certainly speed up the progress of remineralization projects and initiatives and make finely ground glacial and other gravel sources more readily accessible.

That is also why if readers find a good local source of gravel dust which gets good results, it is important to share it with the readers of SR. That way we can gradually accumulate a list of tried and true sources. It means being a pioneer and a detective at the same time! SR would like to encourage trials with potted plants with controls (without rock dust) for comparison and also with small plots in the garden and projects on a larger scale. Keep a written record and send that along with news of the results and photographs. Black and white photos from black and white or color film reproduce best in the newsletter.

Gravel and Rock Dust Sources

Australia

Australian Mineral Fertilizer
 Hendon Industrial Park
 113 Tapleys Hill Rd
 Hendon 5014
 Western Australia

Natural Mineral Fertilizer
 Norm Todkill
 21 Blackwood Ave
 Morningside 4170
 Brisbane
 tel 07 399 1230

Austria

Biogluck
 A-3950 Wielands
 tel 02852 2414

Diabaswerk
 A-5760 Saalfelden
 tel 06582 2373

Firma Diwoky
 Frachtenbahnhof Gersthof
 A-1180 Vienna
 tel 472241

Firma Gleichenteil
 Gleichentheilgasse
 A-1230 Vienna
 tel 672193, 672194

Kärnter Basalt
 Kampach, St. paul
 Laventhal

Konrad Planegger
 Diabas Werk
 A-9314 Lausdorf
 tel 04213 2044

Sanvita
 Aartsteinwerk Kitzbuhl Ges. mbH
 Postfach 44
 A-6370 Kitzbuhl
 tel 05356 1333

Schindeler, Robert
 Furnierwerk Kicking 18
 A-3122 Gansbach

France

Societe des Carrieres de St.
 Nabor
 67530 Ottrott
 St. Nabor
 Tel 88958114

Germany

Basalt Vertriebgesellschaft
 mbH &Co KG
 Sudniedersachsen
 Bramburg, D-3404 Adelebsen

Basaltwerk Wiesau/Opf.
 Triebendorf

Firma Ernst Otto Cohrs

Postfach 1165
 D-2720 Rotenburg/Wumme

Firma Hauri KG
 D-7805 Botzingen/Kaisertuhl

Lava Union
 D-5485 Sinzig

Porphyswerke Weinheim
 Shriesheim AG
 Postfach 1609
 D-6900 Weinheim

Schötterwerk
 D-7613 Hausach Hechtsberg

Switzerland

Bertrand Rime
 1751 Middes
 Fribourg
 tel 037 681335

Bioticino
 V. Gautschin, V C Molo 1
 6500 Bellinzona, Tessen
 tel 092 262984

Firma Otto Gamma AG
 Seestrasse 336
 8038 Zurich
 tel 01 482 4422

Firma Zimmerli
 Mineralwerke AG
 Hohlstrasse 500
 8048 Zurich
 tel 01 641040

Inderkummen & Schwery AG
 Sportplatzweg
 3904 Naters, Valais
 tel 02 832765

Johann Wenger
 Muller Poffetmuhle
 1717 St. Ursen, Fribourg
 tel 037 441173

Maurice Schillinger
 Garten Center, Rte Suisse
 1196 Glant, Vaud
 tel 022 642267

Wytor SA
 1628 Vuadens, Fribourg
 tel 029 28280

United Kingdom

List of 80 Quarries in U.K.
 David Langley, Technical Manager
 Redland Aggregates Ltd
 Bradgate House, Groby
 Leics. LE60FA
 tel 0530 242151

U.S.A.

Azome Utah Mining Co Inc
 Rollin Anderson
 Sterling, Utah 84665
 tel 801 835 4821

Azomite Unlimited
 3735 Malibu Country Drive
 Malibu, CA 90265
 Mineral supplements

Dr. Soils Glacial
 Box 891
 Captain Cook, HI 96704

Gordon Fellows for Mineral Analysis (only)
 Suburban Experiment Station
 Beaver St
 Waltham, MA 02154
 tel 617 891 0650

Laurence Lynch Co
 Falmouth, MA 02540

Brookside Farms Laboratory
 for mineral analysis
 Director Mark Flock
 308 S. Main St
 New Knoxville, OH 45871

Trace Minerals Inc
 1461 Rollins Rd
 Burlingame, CA 94010
 tel 415 344 1728
 Mineral Supplements

Don Weaver
 Box 1961
 Burlingame, Ca 94010
 tel 415 342 0329
 limited quantity available

Vulcan Materials Co.
 Liberty, SC 29657
 te. 1-800 433 8663
 1-800 922 5159

The Network

This is a list of new subscribers. Some subscribers are not listed. If you would like to be included in the listing, please advise SR so we can include you.

Joe Alexander
Box 3200
Fayetteville, AK 72702

Gordon Bowes
918 N. Market St
Inglewood, CA 90302

Dwight Brownell
Box 81
Middleton,
Nova Scotia
Canada

Ellen Buck
Box 278
Fountain, Fla 32438

I'm looking for gravel dust or any kind of ground rock that I can use on my sugar sand or a grinder to grind up the sand.

Brian Cady
RR1 Box 32
New Fane, VT 05346

Leon Carlyle
1621 Beames Ave
New Kensington, PA 15068

Jack Colvin
601 N. Perry St
Hagerstown, IL 47346

Dr. Nancy C. Curtis
2261 Jennison Circle
Anchorage, AK 99508

Leo Dilley
Rte 1 Box 54
Crab Orchard, KY 40419

I am looking for a source and price of gravel dust. I am also interested in the migmatite amphibolite for soil, human beings and animals that Robert Schindeler wrote about.

Bertil Eriksson
Elgboda S. 74100
Knivsta, Sweden

John and Maggie Fraser
Living Earth
Edradynate
Strathtay, Perthshire
Scotland

Olive Freeman
Rte 3 Box 802
Abbeville, LS 70510

Thomas S Gabhart
Box 476
Bridgeton, NC 28519

Shirley-Anne Hardy
The Rocks Pitlochry
Perthshire PH 1650Z
Scotland

Interested in Horticulture, Permaculture, Land Rent Reform, Herbs, Healing, and the wider ripples from these. Send for "Goliath's Unmasked" -via Dr. G.T. Wrench and Henry George- 5 pg paper, postage only asked.

Brian P Hennessy
Meadowbrook Farm
RFD #2 Box 87
Antrim, NH 03440

Robert Hoffman
6935 Foxwaithe Lane
Humble, TX 77338

Have been growing fruits and vegetables with rock powders for 4 years. Would like to do research and correspond with others.

Dick Hogan
592 Paris Ave
Wilmington, OH 45177

Steward/Director of Woolman Institute, a small scale, self help/self reliance project of Wilmington College.

W.B. Joyce
7911 Sherwood Ave
Towson, MD 21204

Nancy Knox
Star Rte Box 266
Sausalito, CA 94965

Manley Lambert
Rte 5 Box 310
Ellijay, GA 30540

Florian Landsberger
Highway 209 North Box 2804
Seeley Lake, MT 59868

Harold F. Lane
20 Fresherin Point
Isle of Lewis PA860HE
Western Isles
Scotland

Steve Levine
18 School St
Jaffrey, NH 03452

Study of psychometeorology, we relate to the weather like to a person.

J.R. McGrath
8403 Pioneer Circle
Rapid City, SD 57701

Paul J. Miller
201 N Columbus ST
Crestline, OH 44827

Doris Millward
10 Bellhurst Cottages
Robertsbridge
E Sussex TN325DN
England

George Morton
29 Hudson Rd
Rosyth, Fife,
Scotland

John Munro
56 Springfield Rd
Glasgow G64 1PN
Scotland

Michael Phillips
RFD 1 Box 275A
Lost Nation Road
Groveton, M
NH 03582

John P Rogers
RFD 2 Box 40
Lancaster, NH 03584

Non profit organization- New Hampshire Land Trust Network

Lester C Schaffner
744 S Lexington Pkwy
St. Paul, MN 55116

Vincent Spader
RR1 Box 37
Oldham, SD 57051

Perry Spiller
Soil Associaton of N Z
Fernhill P.O.
Hawkes Bay 4250, New Zealand

Dominick Trombetta
RT 1 Box 56
Davis Rd
Woodruff, SC 29388

Debra Vuckovich
1139 Woodside Trail
Troy, MI 48098

Will begin with educational outreach to sister organizations in the animal rights/environmental ethics movement, also wish to identify rock dust sources for southeastern Michigan.

Joseph Yasenchak
RD 1 Box 1122
Tamague, PA 18252

Paul Zwolak
300 Main St
Linfield, PA 19468



Subscriptions for 1987

I would like to apologize for not getting SR#3-4 out to you sooner! Away for three months, I had hoped to get the issue out before the trip and found it was not possible. A double issue, #3-4 was decided upon. A double issue will also help to keep the costs down and within budget.

A new year is beginning. The more subscriptions a newsletter has, the more likely it will be able to cover its printing and mailing expenses. With 1986 subscriptions and thoughtful contributions, SR almost managed to do that, not including the editor's labor of love and some sideline expenses. And I do think that is a good beginning! SR looks forward hopefully to the renewals of present subscribers for 1987 and enough new subscribers to cover all the basic printing and mailing costs, of becoming self sufficient, a worthwhile aim for every project and initiative.

With the possibility of access to a computer for 1987, individual renewals may become possible, that is, a year from the time of the subscription, sent with a separate letter to renew. At this point it is more practical to ask subscribers to renew at the new year and make sure each subscriber receives all the copies of the year.

As far as subscriptions go, a U.S. subscriber is helping to subsidize the cost of an outside the U.S. subscription. To send one issue to Nepal registered costs as much as \$6.00. Mailing costs outside the U.S. generally vary from \$1.50 to \$2.50 for each issue, including envelopes. That explains why there is not more of a price difference between subscriptions inside and outside the U.S. The aim is to network to far away places where remineralization can offer ecological self sufficiency in place of dependency on unhealthy chemicals, pesticides and herbicides. Remineralization must take place worldwide. It is hoped the readers agree with this approach.

I would like to thank Steve Zubrowski who donated a tremendous amount of time and patience (with me!) to typesetting SR #2 and improving it visually. Typesetting of this quality is not really affordable for the newsletter. It is hoped it will be possible to format it in a computer, with access to a laser printer in future.

Lastly I would like to thank you for all your support and encouragement: for the advice and support of Don Weaver and John Hamaker, to Bertram Cohen for initiating and getting SR off the ground and to Dan Hemenway (TIPSY), Barry Lynes (The Planet), Roy Kupsinel (Health Consciousness), Margaret Flynn (Healthful Living) and Steven Mcfadden (Earth Star Whole Life Times) for their networking of SR in their respective publications. Also to Betsan Coats, who has contributed to the overseas mailing costs.

And ultimately to the readers of SR who will create the success of this newsletter with their contributions: results of remineralization, photos, articles, experiences, and initiatives on a local or larger scale, be they commercial or cooperative- finally, it all depends on all of you out there!

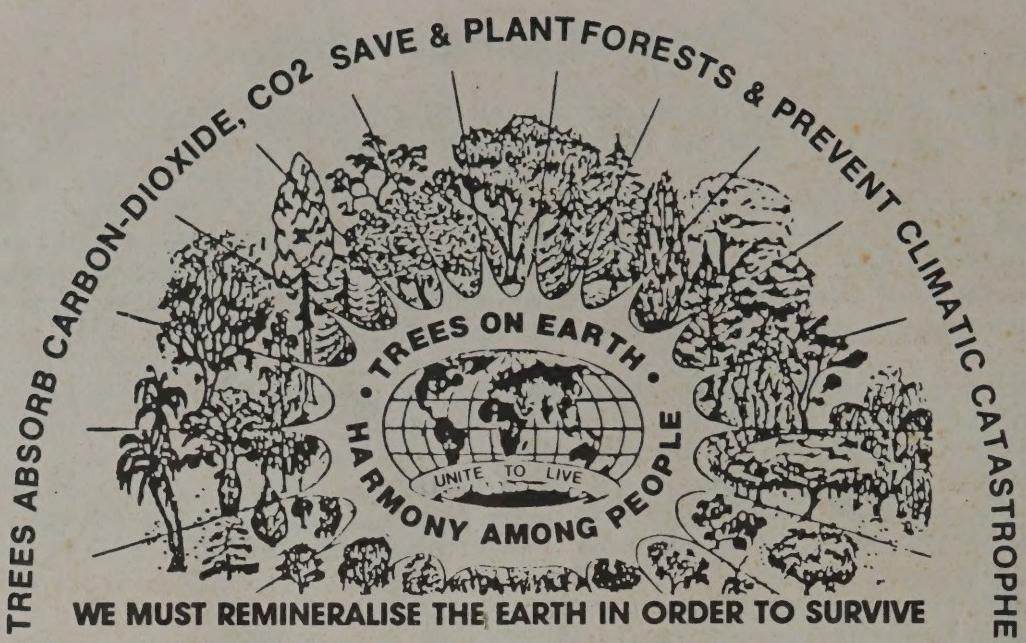
Subscriptions To SOIL REMINERALIZATION A Network Newsletter For 1987

I would like to receive Soil Remineralization, A Network Newsletter. I enclose a check for \$10.00 (within the U.S.) or \$12.00 (outside the U.S.), for a one year subscription (4 issues).

Name _____ Phone _____
Street _____
State _____ Zip _____ Country _____

Would you like to be listed in The Network Listing so that others can communicate with you? Yes _____ No _____

A brief description:



WE MUST REMINERALISE THE EARTH IN ORDER TO SURVIVE

WITH FINE-GROUND RIVER, SEA-SHORE AND GLACIAL GRAVEL AND FINE-GROUND MINERAL-RICH ROCKS FROM MOUNTAINS IN A NATURAL MIX, REMINERALIZES AND REGENERATES, THE SOIL, STRENGTHENS GROWTH AND RESISTANCE TO POLLUTION AND ACID RAIN IN TREES, INVIGORATES ALL PLANT LIFE AND GREATLY INCREASES THE NUTRITIVE VALUE IN FOOD.

HAMAKER CO-ORDINATION

See "The Survival of Civilization" by John Hamaker and Don Weaver. Box 457, Potterville, MI 48876 or Box 1961, Burlingame, CA 94010 U.S.A. Book US \$12 inclusive of postage. Airmail postage extra. INFORMATION CONCERNING REMINERALISING THE SOIL IS ORGANISED ON A VOLUNTARY BASIS. WE CAN ALL HELP TO SAVE OUR EARTH - PHOTOCOPY THIS PAPER AND SEND IT TO YOUR FRIENDS.

**SOIL REMINERALIZATION
A NETWORK NEWSLETTER**

152 South Street
Northampton, MA 01060